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22850	7590	03/22/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			BERNSHTEYN, MICHAEL	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/510,371

Applicant(s)

PETEREIT ET AL.

Examiner

Michael Bernshteyn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 13-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-18 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/23/04, 09/16/05</u> | 6) <input type="checkbox"/> Other: ____ |

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DETAILED ACTION

1. Applicant's election with traverse of Group I, claims 1-12 in the reply filed on February 14, 2006 is acknowledged. The traversal is on the ground(s) that according to PCT Rule, claims of different categories with common special technical features do not lack novelty. This is not found persuasive because the claimed common special technical feature in all claims is a pH-sensitive polymer comprising methacrylic acid units and units of C₁ to C₁₈ – alkyl esters of methacrylic acid, and this common special technical feature lacks of novelty.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-12 are active, claims 13-18 have been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Haddleton et al. (U. S. Patent 5,804,632).

With regard to the limitations of instant claims 1, 6 and 7, Haddleton discloses a production of an aqueous polymer emulsion comprises a low molecular weight polymer containing acid-functional groups made by using a free-radical polymerisation process which employs a free-radical initiator and, for the purpose of controlling molecular weight, a transition metal chelate complex, wherein said low molecular weight polymer

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has a number average **molecular weight within the range of from 500 to 50,000** (abstract).

The monomer system used for the preparation of the acid functional low molecular weight polymer is any suitable olefinically unsaturated monomer(s) which is amenable to (co)polymerisation using CCT (catalytic chain transfer) polymerisation, and can provide, directly or after suitable conversion, the required acid functionality (col. 5, lines 26-31). Typically the acid-bearing comonomers are olefinically unsaturated carboxyl-functional monomers such as mono carboxyl-functional acrylic monomers and olefinically unsaturated dicarboxyl bearing monomers; examples include **acrylic acid**, **methacrylic acid**, itaconic acid, maleic acid and fumaric acid (col. 5, lines 41-46). Non-acid functional monomer(s), which may be copolymerized with the acid monomer(s) include alkylmethacrylates and styrenes, and alkylacrylates can also be used, particularly if included as **comonomers** at low levels. Typically, the acid functional low molecular weight polymer is derived from a monomer system which contains **1-60 weight % of acid comonomer(s)**, and correspondingly **99-40 weight % of non acid functional comonomer(s)** (col. 6, lines 17-23). The low molecular weight polymer should have a number average molecular weight within the range of from **500-50,000**, preferably 700-20,000 and particularly 1,000-10,000 (col. 7, lines 8-10).

Haddleton does not disclose that pH-sensitive polymer brings about at least 60% haemolysis at pH 5.5, and less than 5% haemolyses at pH 7.4, at a concentration of 150 g/ml in a cytotoxicity test with human red blood cells.

Regarding the pH-sensitive polymer's limitations in view of substantially identical monomers, their weight ratio, initiators (peroxide, redox, azo compounds, such as 2,2'-azobis isobutyronitrile, etc.), emulsifier (sodium lauryl sulphate), process of aqueous emulsion polymerization producing such polymers and the same range of molecular weight (compare US'632, col. 12, line 7 through col. 17, line 18 and specification, page 14, line 15 through page 16, line 22) being used by both Haddleton and the applicant, it is the examiner position that the instantly claimed pH-sensitive polymer is not necessarily different from Haddleton's polymer composition.

Since the USPTO does not have proper equipment to do the analytical test, the burden is now shifted to the applicant to prove otherwise. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980).

With regard to the limitations of instant claims 2-5, Haddleton discloses that methacrylates include normal or branched alkyl esters of C1 to C12, especially C1 to C10, alcohols and methacrylic acid, (i.e. C1 to C12, especially C1-10, alkyl methacrylates) such as **methyl methacrylate, ethyl methacrylate, n-butyl methacrylate** and lauryl methacrylate. Acrylates include normal and branched alkyl esters of C1 to C12, especially C1 to C10, alcohols and acrylic acid, (i.e. C1-C12, especially C1-10, alkyl acrylates) such as **methyl acrylate, ethyl acrylate, n-butyl acrylate** and 2-ethylhexyl acrylate (col. 5, lines 53-67). There is a mixture of MMA (methyl methacrylate), BMA (butyl methacrylate) and MAA (methacrylic acid) used for the preparation of the copolymer in LMP 10 (low molecular weight polymer) (col. 16 line 65 through col. 17, line 13).

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Therefore all of the above methacrylates and acrylates are subgenus of non-acid functional monomers, which are generically disclosed, and which are polymerized with acid monomer(s). Therefore, they can substitute each other. Additionally, according to the example of LMP 10, they can be employed singly or two or more monomers.

It is further noted that the amount of methacrylic acid, methacrylates and acrylates in the copolymer is a result effective variable, and therefore, it is within the skill of those skilled in the art to find the optimum value of a result effective variable, as per *In re Boesch and Slaney* 205 USPQ 215 (CCPA 1980). See also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382: "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."

With regard to the limitations of instant claims 8-10, it is worth to mention that these claims are intended use of pH-sensitive polymer and therefore it would have been known to one having ordinary skill in the art when the invention was made how to use the polymer composition in pharmaceutical industry.

Furthermore Haddleton discloses that one or both of the low molecular weight polymer and the hydrophobic polymer possess functional groups for **imparting latent crosslinkability to the composition** (i.e. so that crosslinking takes place e.g. after the formation of a coating therefrom). Alternatively, one or both polymers could carry functional groups such as hydroxyl groups and the composition subsequently formulated with a **crosslinking agent** such as a polyisocyanate, melamine, or glycouril; or the functional groups on one or both polymers could include keto or aldehyde

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carbonyl groups and the subsequently formulated crosslinker could be a polyamine or polyhydrazide such as adipic acid dihydrazide (col. 11, lines 10-27).

With regard to the limitations of instant claim 11, Haddleton discloses an aqueous emulsion polymerization process to form an aqueous emulsion of a hydrophobic polymer from at least one olefinically unsaturated monomer, wherein the low molecular weight polymer is introduced to the aqueous medium of said emulsion polymerization process before the start of and/or during said emulsion polymerization process and becomes dissolved or dispersed in said aqueous medium (abstract). The polymerization process can be carried out in the presence of a polymerization medium (acting as a **carrier medium** for the components and as a heat transfer medium) or in the absence of such a medium (i.e. in bulk) (col. 4, lines 21-24).

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haddleton as applied to claims 1-11 above, and further in view of Rehmer et al. (U. S. Patent 6,225,401).

With regard to the limitations of instant claim 12, Haddleton discloses that the CCT technique avoids the requirements to use conventional chain transfer agents, which often have disadvantages of one sort or another. For example, **mercaptans** impart a pronounced odour (col. 10, lines 40-44) while the metal chelate, acting to control molecular weight, may be used in a very low amount (because it acts in a catalytic manner) in comparison to conventional chain transfer agents for achieving comparable molecular weight reduction. This allows a much purer product to be made (col. 10, lines 54-58).

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Haddleton does not disclose that molecular weight regulator is dodecyl mercaptan and/or 2-ethylhexyl thioglycolate.

Rehmer discloses that in the polymerization reaction it is also possible to add regulators, especially in amounts of up to 0.5% by weight of the amount of monomers, which reduce the degree of polymerization of the resulting **emulsion polymers**. Examples of such regulators are mercaptans, such as **tert-dodecyl mercaptan**, **ethylhexyl thioglycolate**, or 3-mercaptopropyltrimethoxysilane, or unsaturated compounds with allylic hydrogens, such as butenol (col.3, lines 31-38).

Therefore, it would have been obvious to one having ordinary skill in the art when the invention was made to employ dodecyl mercaptan and/or 2-ethylhexyl thioglycolate as molecular weight regulators for emulsion polymers as taught by Rehmer in order to obtain the polymer composition comprising methacrylic acid units and alkyl esters of methacrylic acid units with low molecular weight as taught by Haddleton, and thus to arrive at the subject matter of claim 1.

5. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lehmann et al. (U. S. Patent 5,705,189).

With regard to the limitations of instant claim 1, 6 and 7, Lehmann discloses thermoplastic materials which comprise a copolymer of A) 16 to 40 wt % of **acrylic and/or methacrylic acid**; (B) 30 to 80 wt % of **methyl acrylate**; and (C) 0 to 40 wt % of **another alkyl ester of acrylic and/or methacrylic acid** and perhaps conventional auxiliaries for drug coatings are suitable for the production of drug coatings which are

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soluble in intestinal juices, such as tablet coatings, dies, films, capsules, or multipart dosage units (abstract). Said copolymer has a weight average molecular weight of 50,000 to 1,5000,000 daltons (d) (col. 3, line 40)

Lehmann discloses that together with acrylic and/or methacrylic acid and methyl acrylate, other alkyl esters of acrylic and/or methacrylic acid, if desired, can also be used, in particular those with 1 to 8 carbon atoms in the alkyl radical, in quantities up to 40 wt %. The following are particularly suitable: **ethyl, propyl, butyl** and 2-ethylhexyl **acrylate**, and **methyl, ethyl, propyl** and **butyl methacrylate** (col. 3, lines 51-57).

Lehmann does not disclose that pH-sensitive polymer brings about at least 60% haemolysis at pH 5.5, and less than 5% haemolyses at pH 7.4, at a concentration of 150 g/ml in a cytotoxicity test with human red blood cells.

Regarding the pH-sensitive polymer's limitations in view of substantially identical monomers, their weight ratio, initiators (water-soluble), emulsifier (anionic emulsifier), process of aqueous emulsion polymerization producing such polymers and the same range of molecular weight being used by both Lehmann and the applicant, it is the examiner position that the instantly claimed pH-sensitive polymer is not necessarily different from Lehmann's polymer composition.

Since the USPTO does not have proper equipment to do the analytical test, the burden is now shifted to the applicant to prove otherwise. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980).

With regard to the limitations of instant claims 2-5, Lehmann discloses that the compositions include **methyl acrylate, ethyl acrylate, methyl methacrylate** and

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methacrylic acid in the claimed ranges for instant claims 3 (col. 4, lines 56-57, Example 4) and 4 (col. 4, lines 61-62, Example 6).

Therefore all of the above methacrylates and acrylates are subgenus of alkyl esters of acrylic and/or methacrylic acid, which are generically disclosed, and which are polymerized with acrylic or methacrylic acid. Therefore, they can substitute each other. Additionally, according to the examples 4 and 6, they can be employed singly or two or more monomers.

It is further noted that the amount of methacrylic acid, methacrylates and acrylates in the copolymer is a result effective variable, and therefore, it is within the skill of those skilled in the art to find the optimum value of a result effective variable, as per *In re Boesch and Slaney* 205 USPQ 215 (CCPA 1980). See also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382: "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."

With regard to the limitations of instant claims 8-10, Lehmann discloses that the thermoplastic material copolymer can be mixed with auxiliaries in the melt, which are common in **drug coating compositions**. Among these are plasticizers, such as citric acid esters, **polyethylene glycols**, fillers, dyes, pigments, preservatives, flavoring substances, active substances and mold-release agents, such as **glycerol monostearate** and distearate, mixtures of the two, and stearic acid and its metal salts (col. 3, line 62 through col. 4, line 2).

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With regard to the limitations of instant claim 11, Lehmann discloses that such copolymers can be processed from an aqueous dispersion or organic solution (col. 2, lines 14-15). Preferably, the copolymer is produced by **emulsion polymerization** in the aqueous phase in the presence of preferably **anionic emulsifiers** and is isolated by spray-drying, freeze-drying or by coagulation and dehydration (col. 3, lines 46-50).

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehmann as applied to claims 1-11 above, and further in view of Rehmer et al. (U. S. Patent 6,225,401).

With regard to the limitations of instant claim 12, Lehmann discloses that the copolymer can be produced according to the usual methods of radical polymerization. Regulators, such as **alkyl mercaptans**, can be also used in order to attain a molecular weight (weight average) of **50,000** to 1,500,000 d (US'189, col. 3, lines 38-40).

Lehmann does not disclose that molecular weight regulator is dodecyl mercaptan and/or 2-ethylhexyl thioglycolate.

Rehmer discloses that in the polymerization reaction it is also possible to add regulators, especially in amounts of up to 0.5% by weight of the amount of monomers, which reduce the degree of polymerization of the resulting **emulsion polymers**. Examples of such regulators are mercaptans, such as tert-**dodecyl mercaptan**, **ethylhexyl thioglycolate**, or 3-mercaptopropyltrimethoxysilane, or unsaturated compounds with allylic hydrogens, such as butenol (col.3, lines 31-38).

Therefore, it would have been obvious to one having ordinary skill in the art when the invention was made to employ dodecyl mercaptan and/or 2-ethylhexyl thioglycolate

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as molecular weight regulators for emulsion polymers as taught by Rehmer in order to obtain the polymer composition comprising methacrylic acid units and alkyl esters of methacrylic acid units with low molecular weight as taught by Lenmann, and thus to arrive at the subject matter of claim 1.

7. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lehmann et al. (U. S. Patents 5,644,011).

Lehmann discloses a coatings and binders for pharmaceutical forms containing a copolymerizate, which is made up of A) **methacrylic acid**, B) **methyl acrylate** and C) **methyl methacrylate** (abstract). The monomer components indicated by A, B, and C generally form more than 80 wt %, and preferably 100 wt % of the copolymerizate. The portion, which may remain, can consist of other acrylic or methacrylic monomers, particularly alkyl esters, such as **ethyl acrylate** and **methacrylate** or **butyl acrylate** and **methacrylate**. The molecular weight is in customary range of, for example, **50,000** to **300,000** d (col. 3, lines 59-65).

Lehmann does not disclose that pH-sensitive polymer brings about at least 60% haemolysis at pH 5.5, and less than 5% haemolyses at pH 7.4, at a concentration of 150 g/ml in a cytotoxicity test with human red blood cells.

Regarding the pH-sensitive polymer's limitations in view of substantially identical monomers, their weight ratio, initiators (water-soluble), emulsifier (anionic emulsifier), process of aqueous emulsion polymerization producing such polymers and the same range of molecular weight being used by both Lehmann and the applicant, it is the

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examiner position that the instantly claimed pH-sensitive polymer is not necessarily different from Lehmann's polymer composition.

Since the USPTO does not have proper equipment to do the analytical test, the burden is now shifted to the applicant to prove otherwise. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980).

With regard to the limitations of instant claims 2-5, Lehmann discloses that the compositions include **methyl acrylate, ethyl acrylate, methyl methacrylate and methacrylic acid** in the claimed ranges for instant claims 2 (col. 3, lines 20-25 Examples V3 and V4) and 5 (col. 3, lines 20-25 Example V2).

Therefore all of the above methacrylates and acrylates are subgenus of alkyl esters of acrylic and/or methacrylic acid, which are generically disclosed, and which are polymerized with acrylic or methacrylic acid. Therefore, they can substitute each other. Additionally, according to the examples V1-V4, they can be employed singly or two or more monomers.

It is further noted that the amount of methacrylic acid, methacrylates and acrylates in the copolymer is a result effective variable, and therefore, it is within the skill of those skilled in the art to find the optimum value of a result effective variable, as per *In re Boesch and Slaney* 205 USPQ 215 (CCPA 1980). See also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382: "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."

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With regard to the limitations of instant claims 8-10, Lehmann discloses that according to the mechanism of release of the active ingredient, the **pH control** by means of the coating film can be used not only in the gastrointestinal tract, but also in other body cavities, tissues, the **bloodstream**, and the habitats of animals and plants in order to cause the release of active ingredients in connection with a change of pH. Examples are coatings, which can be introduced into the bloodstream with catheters, implants of veterinary drugs, and vaccines, which are mixed with fish food (col. 4, lines 51-56). As with other aqueous coating agents, layers of multilayer coating system can also be generated. Likewise, a core, which contains, for example, base or water-sensitive active ingredients, can be provided with an insulating layer of a different coating material (col. 4, lines 60-64). In Example 1 emulsion polymerizate was diluted with polymer substance (col. 5, lines 9-32).

With regard to the limitations of instant claim 11, Lehmann also discloses the compositions for coatings and binders for **pharmaceutical forms** which contain a copolymerizate of ethylenic, unsaturated, radical and polymerizable monomers with a carboxyl group and alkyl esters of such monomers which are present, preferably as latex dispersed in an **aqueous phase**, as well as to the use of the coatings and binders and the pharmaceutical forms produced with them (col. 1, lines 6-13). Preferred is emulsion polymerization in an aqueous phase in the presence of water-soluble initiators and, preferably anionic emulsifiers (col. 4, lines 3-5).

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehmann as applied to claims 1-11 above, and further in view of Rehmer et al. (U. S. Patent 6,225,401).

Lehmann does not disclose that molecular weight regulator is dodecyl mercaptan and/or 2-ethylhexyl thioglycolate.

Rehmer discloses that in the polymerization reaction it is also possible to add regulators, especially in amounts of up to 0.5% by weight of the amount of monomers, which reduce the degree of polymerization of the resulting **emulsion polymers**. Examples of such regulators are mercaptans, such as **tert-dodecyl mercaptan**, **ethylhexyl thioglycolate**, or 3-mercaptopropyltrimethoxysilane, or unsaturated compounds with allylic hydrogens, such as butenol (col.3, lines 31-38).

Therefore, it would have been obvious to one having ordinary skill in the art when the invention was made to employ dodecyl mercaptan and/or 2-ethylhexyl thioglycolate as molecular weight regulators for emulsion polymers as taught by Rehmer in order to obtain the polymer composition comprising methacrylic acid units and alkyl esters of methacrylic acid units with low molecular weight as taught by Lenmann, and thus to arrive at the subject matter of claim 1.

Conclusion

Other references are considered pertinent to the Applicant disclosure but not cited in this office include U.S. Patent 4,705,695, 5,342,646, 6,624,210 and U. S. Patent

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Application Publications 2001/0022972, 2001/0055619 and 2003/0060381 are shown on the Notice of References Cited Form (PTO-892).

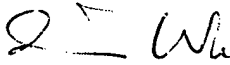
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn
Patent Examiner
Art Unit 1713

MB
03/01/2006


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